

REPTILE DIVERSITY IN A *CALLITRIS* FOREST IN CENTRAL QUEENSLAND'S BRIGALOW BELT.

Memoirs of the Queensland Museum 39(2) 390. 1996:- The clearing of much of Queensland's Brigalow Biogeographic Region for agriculture and grazing has been well documented (Sattler & Webster, 1984; Gasteen, 1985), but the effects of this on animal diversity and populations is unknown. To date no comprehensive review of distribution and status of the Brigalow Biogeographic Region's reptile species has been completed, although such a study is current (Covacevich, Couper & McDonald pers.comm.). To further that work I monitored, a long term pit trap to assess reptile species diversity in a small, relatively untouched forest near Emerald, MEQ.

The study site (23°40'S, 148°06'E) is 100m from the full supply level of Fairbairn Dam. It was maintained by staff of the Camp Fairbairn Outdoor Education Centre of the Queensland Education Department, with assistance from visiting school children. The trap design followed Hobbs et al. (1994). Twelve buckets were set in a N-S line, over 50m. The study site was located in sand amongst *Callitris columellaris*, with scattered pockets of *Cassia ovata*.

The study was conducted over 199 days, from April till December 1995; specimens were collected on 72 days over 4 seasons. 170 specimens of 24 species were collected, 23 voucher specimens have been lodged in the Queensland Museum reference collection (QMJ61410-61412, 61423, 61426, 61436-61441, 61444-61454, 61459). Most reptile activity occurred during October, November and May. In these months 77.5% of the specimens were trapped (Fig 1).

The following species were collected during the study: *Diplodactylus conspicillatus* x7, *D. stehndachneri* x17, *D. taenicauda* x7, *D. vittatus* x11, *Heteronotia binoei* x12, *Nephrurus asper* x3, *Lialis burtonis* x3, *Carlia munda* x1, *C. pectoralis* x7, *Cryptoblepharus carnabyi* x27, *Ctenotus robustus* x6, *C. strauchii* x13, *C. taeniolatus* x13, *Lerista fragilis* x3, *L. punctatovittata* x9, *Menetia greyii* x2, *Morethia boulengeri* x13, *M. taeniopleura* x3, *Varanus tristis* x1, *Rumphyphlops* sp. x4, *Demansta psammophis* x1, *Rhinoplocephalus boschmai* x1, *Simoselaps australis* x2, *Vernicella annulata* x1. In addition to reptiles the following were collected (and released) from the pit trap: spiders: scorpions; centipedes; millipedes; bush cockroaches; frogs (*Lamodynastes ornatus*); mammals (*Tachyglossus aculeatus*, *Pseudomys delicatulus*).

Construction of the Fairbairn Dam commenced in 1968 and was completed in December 1972. It flooded c.16000ha of native forests, most of which had been grazed or modified. Native forests bounding its waters are now virtually the only non-agricultural land in the Emerald district. That 24 species of small reptiles were found in this small patch of *Callitris* forest in a 9 month period suggests that the diversity of small reptiles has been maintained, despite considerable modification of habitat. It also highlights the value of pit-trapping in surveys. I have been based at Fairbairn Dam for 5 years, and spend some time everyday in the field. Prior to this study, only 7 reptile species had been recorded incidentally in the Outdoor Education Centre's lease, an area of 19 ha. No methodical

hand collecting or searching for reptiles had been undertaken.

No significant range extensions for reptiles were made. However, the study confirms *D. taenicauda*, *C. pectoralis*, *C. taeniolatus* and *M. taeniopleura* near the limit of their range in the Emerald area (Covacevich & Couper, 1991). Two species on this site are of special conservation concern currently. *D. taenicauda* and *V. annulata* are classified 'rare or insufficiently known' by Cogger et al. (1993).

The Australian Nature Conservation Agency funded field work by Jeanette Covacevich, Patrick Couper and Keith McDonald in the Brigalow Biogeographic Region. They encouraged me to monitor the trap and report on this study. My colleagues Bruce Davis and Jillian Ryan from Camp Fairbairn Outdoor Education Centre and the many staff and students that visited the centre during the study made the daily task of checking the traps a pleasurable, educational experience. Jeanette Covacevich assisted me in preparing this note.

Literature Cited

- Cogger, H.G., Cameron, E., Sadler, R. & Egglar, P. (eds) 1993. The action plan for Australian reptiles. (Australian Nature Conservation Agency: Canberra) 254 pp.
- Covacevich, J.A. & Couper, P.J. 1991. Reptiles. In Ingram, G.J. & Raven, R.J. (eds). An atlas of Queensland's frogs, reptiles, birds and mammals. (Queensland Museum: Brisbane).
- Gasteen, W.J. 1985. The Brigalow lands of eastern Australia - agricultural impact and land use potential versus biological representation and stability. Pp. 45-49. In Gasteen, J., Henry, D. & Page, S. (eds). Agriculture and conservation in inland Queensland. (Wildlife Preservation Society of Queensland: Brisbane). 114p.
- Hobbs, T.J., Morion, S.R., Masters, P. & Jones, K.R. 1994. Influence of pit-trap design on sampling of reptiles in arid spinifex grasslands. *Wildlife Research* 21: 438-90.
- Sattler, P.S. 1986. Nature conservation in Queensland: planning the matrix. *Proceedings of the Royal Society of Queensland* 97: 1-21.
- Sattler, P.S. & Webster, R.J. 1984 The conservation status of Brigalow (*Acacia harpophylla*) communities in Queensland. Pp. 149-160. In Bailey, A. (ed.) The Brigalow Belt of Australia. (The Royal Society of Queensland: Brisbane).
- Russell Deer, Camp Fairbairn Outdoor Education Centre, Box 419, Emerald, Queensland 4720, Australia; 20 April 1996.

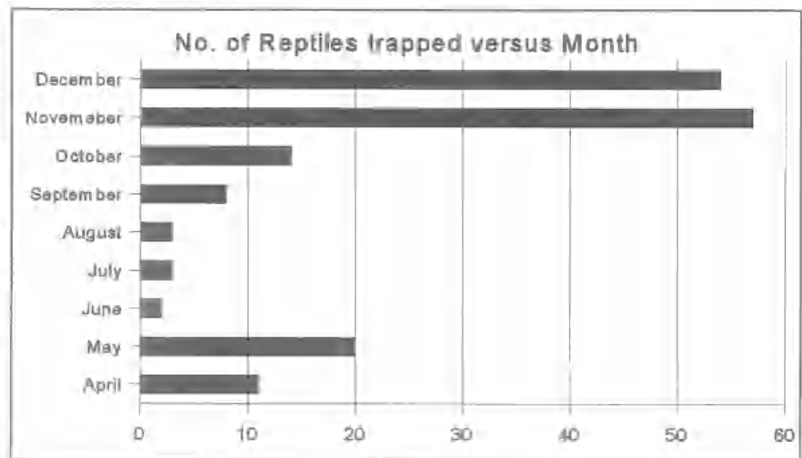


Fig.1. Number of specimens trapped per month